

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A medical imaging system comprising: acquisition means 2 intended to acquire a volume of 3D digital data 3DV comprising at least one object of interest 1, means 4 for segmenting a region of interest comprising said object of interest 1 within said volume 3DV, means 3 for displaying a 2D representation 2DR of said volume 3DV and said segmented region of interest RS, means 5 for calculating a sub-regions map CSR_1 , CSR within said segmented region, correction means 6 intended to exclude sub-regions from said region of interest by means of said sub-regions map CSR_1 , CSR.

2. (Currently Amended) A medical imaging system as claimed in claim 1, characterized in that said means 5 for calculating a sub-regions map comprise sub-means 11 for calculating watersheds intended to form a first sub-regions map CSR_1 within the segmented region RS.

3. (Currently Amended) A medical imaging system as claimed in claim 2, characterized in that said means 5 for calculating a sub-regions map comprise sub-means 10 for calculating a map of distances CD, said sub-means 11 for calculating watersheds being intended to form the first sub-regions map CSR_1 from said map of distances CD.

4. (Currently Amended) A medical imaging system as claimed in claim 2, characterized in that said means for calculating a sub-regions map 5 comprise merging sub-means 12 intended to merge sub-regions of the first map CSR_1 in order to form a second sub-regions map CSR.

5. (Currently Amended) A medical imaging system as claimed in claim 1, characterized in that it comprises control means 7 enabling a user to select the sub-regions to be excluded.

6. (Original) A medical imaging system as claimed in claim 1, characterized in that said system is able to update said 2D representation in order to take into account the effects of the correction

7. (Currently Amended) A medical imaging system as claimed in claim 1, comprising labeling means 8 for labeling the sub-regions map CSR_1 , CSR of the segmented region of interest RS.

8. (Currently Amended) A device for correcting a segmented region RS, intended to be integrated in a medical imaging system intended to acquire a volume of data and to segment a region of interest around an object of interest 1 within said volume, said device comprising: means 5 for calculating a sub-regions map CSR_1 , CSR within the segmented region RS, correction means 6 intended to exclude sub-regions of said region of interest RS by means of said sub-regions map.

9. (Currently Amended) A medical imaging apparatus comprising: means 22 for forming a volume of digital data representing an environment including an object of interest 1, a medical imaging system 20 as claimed in claim 1.

10. (Currently Amended) A method of correcting a segmented region of interest comprising: a step of calculating a sub-regions map CSR_1 , CSR within the segmented region RS, a correction step intended to exclude sub-regions of the segmented region RS by means of the sub-regions map CSR_1 , CSR.

11. (Original) A computer program product comprising a set of instructions which, when they are loaded into a circuit, causes the latter to implement the method as claimed in claim 10.